

Electrical Engineering Abst.
Vol. 57 No. 675
Mar. 1954
Electronics

197. *Non-linearity of resistance ratio due to harmonics in anode voltage.*
J. Zawadowicz. Arch. Elektronik. [Warszaw] 1, No. 2,
111-18 (1952) by Pofal.

Two types of non-linearity were investigated both analytically and experimentally. It is shown that the primary non-linear effect is caused by the change in the average slope of a valve, the equivalent reactance either increasing or decreasing proportionately to the square of the a.c. anode voltage and the square of the feedback factor. This effect can either be reduced by choosing proper operating conditions, or compensated by means of a regulator network. The secondary effect, which appears only in the presence of harmonics in the anode voltage, also causes a variation in the equivalent reactance and resistance of the circuit. A considerable reduction of this effect is achieved by employing a system where the feedback factor decreases with frequency, e.g. RC or LR. The theory is corroborated by experiments with a triode (EL1) at 1 kc/s for CR and LC circuits. A comprehensive summary in English is included.

R. S. Storowicz

Kaganowich

621 273 421 762 130 123
C9. Linear and non-linear resistance effects in
feedback conductors. T. Z. Kaganowich, work submitted
March 1963. No. 1963-4-1-0012-4

12. Subject description: The measurements and theory of
resistance. It was observed that the measured values
of feedback factor for Minskay-Cobalt, C9, and
Harley oscillators agree satisfactorily with the calculated
values, the discrepancies being caused by grid currents.
The measured values are approximate to the calculated
ones when the grid current becomes negligible.
for grid resistors R_{g1} , R_{g2} , R_{g3} .
Further investigations
on Minskay and Harley oscillators showed that
the frequency can be made independent of heater
current by using a suitable grid bias constant
 $\beta = 2 \times 10^{-3}$. The value of β can be regarded
as a design parameter which can be selected
according to the required conditions of operation for the
oscillator. This method of compensation is
described in the report.

621 373 4 - 621 374 12

51

1961 RDP2 Declassify 100 years
2021 RDP2 Declassify 100 years

degrees in the grid and anode voltages. Two nonlinear effects are considered: (a) the primary effect of the curvature in the valve characteristic, and (b) the secondary effect due to the presence of harmonic components in the applied signal. These were also investigated experimentally and the results are presented graphically. A circuit for reducing the effect of nonlinearity was also investigated.

H 500

ZAGAJEWSKI, T.

POLAND/Radio Physics - General

I-1

Abs Jour : Ref Zhur - Fizika, No 6, 1958, No 13729

Author : Zagajewski, T.

Inst : Department of Industrial Electronics, Polytechnic Institute
of Silesia in Gliwice, Poland

Title : Time Constant of Oscillations and Nonlinear Distortion in
Vacuum Tube Oscillators

Orig Pub : Arch. elektrotechn., 1957, 6, No 3, 395-419

Abstract : The author considers the speed of a dynamic buildup of generator oscillations with a positive value of increment from a state of interrupted oscillation. The characteristic introduced is the concept of the settling time of the oscillations, which is defined as the time during which the amplitude increases from 0.1 to 0.9 of the steady-state oscillation amplitude. Relations are given for the connection between this quantity and the linear distortion of the oscillator. The results of suitable experiments, carried out to verify the obtained relationships, are discussed. The detailed analysis

Card : 1/2

POLAND/Radio Physics - General

I-1

Abs Jour : Ref Zhur - Fizika, No 6, 1958, No 13729

is made of the establishment of oscillations in vacuum tube
oscillators, whose characteristics have the form

$$i = \sum_n a_n \sin n\omega t$$

for odd n and

$$i = \sum_n a_n \cos n\omega t$$

for even n. Bibliography, 7 titles.

Card : 2/2

PHASE I BOOK EXPLOITATION 943

Zagajewski, Tadeusz, Doctor of Engineering, Professor

Nadajniki radiowe (Radio Transmitters) Warsaw, PWT, 1958. 478 p. 2,629 copies printed.

Reviewer: Ryzko, Stanislaw, Doctor of Engineering, Professor; Scientific Ed. of Publishing House: Kutzner, J., Engineer; Tech. Ed.: Bochenksi, W.

PURPOSE: The book is intended for engineers and technicians working in telecommunications and for students of higher technical schools.

COVERAGE: The author states that his intention is to give a complete and systematic description of the operation, design, construction and measurement of radio transmitting equipment. Various types of radio transmitters are described. This 1958 edition has revised and modernized the material contained in the two previous editions of 1948 and 1950. No personalities are mentioned. There are 33 references, of which 12 are Soviet, 10 English, 6 Polish, 4 German and 1 French.

Card 1/16

Radio Transmitters**943****TABLE OF CONTENTS:**

List of Symbols	8
Ch. I. Introduction	9
1. Principles of radio communication	9
2. Development of transmitting devices	11
Ch. II. High-frequency Circuits	14
1. Resonant circuits	14
1. Series resonant circuit	14
2. Parallel resonant circuit	15
3. Series-parallel resonant circuit	18
4. Effective power and efficiency of a circuit	19
5. Coupled resonant circuits	21
2. Tl-circuit and half-T sections	22
1. Tl-circuits	22
2. Half-T sections	26

Card 2/16

Radio Transmitters**943**

3. Circuits with distributed constants	28
1. Long lines	29
2. Butterfly resonators	32
3. Cavity resonator circuits	33
4. Dielectric materials	35
1. Properties of dielectrics	35
2. Solid dielectrics	35
3. Liquid and gaseous dielectrics	37
5. Fixed capacitors	40
1. Ceramic capacitors	40
2. Capacitors with gaseous dielectric	40
6. Variable capacitors	41
1. General requirements	41
2. Air capacitors	42
3. Compressed - air capacitors	43

Card 3/16

Radio Transmitters

943

7. Properties of inductance coils	44
1. Calculation of coil inductance	44
2. Coil losses	45
3. HF litz wire	47
4. Self-capacitance of a coil	49
5. Thermal coefficient of inductance	50
8. HF coils with iron core	50
1. Coils with iron-powder cores	51
2. Ferrite cores	53
9. Construction of inductance coils	54
1. Coils with constant inductance	54
2. Variometers with variable mutual inductance	56
3. Slide variometers	58
Ch. III. High-frequency Amplifiers	60
1. Properties of transmitting tubes	60
1. Cathodes of transmitting tubes	61
2. Construction of transmitting tubes	63
3. Static characteristics of triodes	65
4. Characteristics of tetrodes and pentodes	71

Card 4/16

Radio Transmitters

943

2. Operating Conditions of HF Amplifiers	74
1. Operation of HF amplifier	74
2. Classes of operation of single-tuned amplifiers	78
3. Graphical analysis of processes occurring in a single-tuned amplifier	80
4. Typical operating conditions of an amplifier	82
3. Analysis of operation of a HF amplifier	84
1. Expansion of cosine pulses by the Fourier series	85
2. Equation for a single-tuned amplifier	88
3. Equivalent circuit of a single-tuned amplifier	89
4. Grid circuit of an amplifier	91
5. Selection of operating conditions for an amplifier	94
6. Operation of an overexcited amplifier	97
7. Effect of circuit parameters on amplifier performance	101
4. Design of a single-tuned amplifier	103
1. Approximate calculation of amplifier performance	103
2. Exact calculation of amplifier performance	104
3. Parallel operation of tubes	107
4. Push-pull circuit	107

Card 5/16

Radio Transmitters

943

5. Amplifiers with frequency multiplication	108
1. Operating conditions of a frequency multiplier	109
2. Selection of operating conditions for a frequency multiplier	110
Ch. IV. Vacuum Tube Oscillators	114
1. Introduction	114
2. Stabilization of oscillators	116
1. Principle of operation of an oscillator with negative resistance	116
2. Principle of operation of a feedback oscillator	118
3. Frequency stabilization of oscillators	126
3. Electromechanical stabilization	131
1. Quartz-crystal properties	131
2. Circuits of crystal oscillators	138
3. Change of frequency in crystal oscillators	143
4. Decrease of frequency	144
Ch. V. Microwave Oscillators	146
1. Introduction	146

Card 6/16

Radio Transmitters**943**

2. Triode oscillators	147
1. Properties of triodes at very high frequency	147
2. Microwave triodes and their application	150
3. Klystron oscillators	153
1. Construction and properties of klystrons	153
2. Energy relations in a klystron	155
3. Reflex klystron	157
4. Magnetron oscillators	158
1. Properties of a magnetron	158
2. Types of magnetrons	160
Ch. VI. Neutralization and Parasitic Oscillations	168
1. Neutralization	168
1. Coupling between output and input circuits	168
2. AC bridge circuits	169
3. Grid neutralization	170
4. Plate neutralization	172
5. Neutralization in a push-pull circuit	173
6. Resonance neutralization	174

Card 7/16

Radio Transmitters

943

7. Shortwave neutralization	175
8. Practical method of neutralization	176
9. Multigrid amplifier	178
10. Grounded grid amplifier	178
2. Parasitic oscillations	181
1. Introduction	181
2. Parasitic oscillations at a frequency close to the operating frequency	182
3. Parasitic oscillations at a frequency below the operating frequency	183
4. Parasitic oscillations at a frequency above the operating frequency	184
5. Audio-frequency parasitic oscillations	186
Ch. VII. Amplitude Modulation	186
1. General information on modulation	188
1. Introduction	188
2. Quality of modulation	189
3. Frequency band-width	191
4. Wave characteristics with amplitude modulation	191
5. Influence of HF circuits on modulation	196
6. Amplitude-modulation circuits and their characteristics	197
7. Operating conditions of modulation circuits	198

Card 8/16

Radio Transmitters

943

2. Grid modulation	199
1. Principle of operation of the circuit	199
2. Energy relations of a grid-modulated circuit	202
3. Design of an amplifier with grid modulation	204
4. Circuits with grid modulation	206
3. Plate modulation	207
1. Principle of operation of the circuit	207
2. Energy relations with plate modulation	210
3. Design of an amplifier with plate modulation	212
4. Plate modulation circuits	215
5. Operating conditions of a modulator	218
4. Amplifier for modulated power	219
1. Principle of operation of the circuit	219
2. Energy characteristics of the amplifier	222
5. Modulation by means of amplifiers with multigrid tubes	223
1. Modulation with a pentode	223
2. Modulation with a tetrode	226

Card 9/16

Radio Transmitters

943

6.	High-efficiency circuits for amplitude modulation	227
1.	Problems in obtaining efficient modulation	227
2.	Chireix modulation circuit	229
3.	Doherty amplifier circuit	230
4.	Circuit with carrier-wave control	237
5.	Circuits with single-band modulation	239
7.	Modulators	244
1.	Preliminary remarks	244
2.	Negative feedback	250
3.	Negative feedback in a transmitter	255
4.	Modulator circuits	257
Ch. VIII. Broad-band Modulation Circuits		261
1.	Characteristics of phase and frequency modulation	261
1.	Current with phase modulation	261
2.	Sidebands of phase modulation	264
3.	Operation of a coupling circuit during phase modulation	268
2.	Phase and frequency-modulation circuits	270
1.	Phase-modulation circuits	271
2.	Circuits of direct frequency-modulation	275
3.	Frequency-modulation circuits with a crystal oscillator	281

Card 10/16

Radio Transmitters**943**

3.	Pulse modulation	283
1.	Principle of operation	283
2.	Pulse-modulation circuits	289
3.	Principle of operation of a coupling circuit for pulse modulation	293
Ch. IX. Telegraph Keying		295
1.	Amplitude Keying	297
1.	Characteristics of telegraphy with amplitude keying	297
2.	Circuits with amplitude keying	300
2.	Keying by frequency shifting	306
1.	Characteristics of telegraphy with frequency shifting	306
2.	Keying circuits with frequency shifting	309
Ch. X. Power Supply Equipment		315
1.	Transmitter power supply	315
1.	Introduction	315
2.	Filament circuit power supply	315
3.	Grid circuit power supply	319
4.	Plate circuit power supply	320

Card 11/16

Radio Transmitters**943**

2. Rectifiers	
1. Mechanical rectifiers	320
2. Vacuum-tube and gas-filled diodes	321
3. Mercury-arc rectifiers	321
4. Control of a mercury-arc rectifier	324
5. Semiconductor rectifiers	325
6. Selecting the proper rectifier	327
	328
3. Rectifier circuits	
1. Effect of load on rectifier operation	329
2. Properties of multiphase rectifier circuits	329
3. Singlephase circuits	330
4. Three-phase circuits	332
5. Actual processes occurring in a rectifier	334
6. Efficiency of rectifiers	336
	337
4. Filters	
1. Filter requirements	338
2. Filter with a capacitive input	338
	339

Card 12/16

Radio Transmitters	943
3. Filter with an inductive input	340
4. Transient processes in a rectifier	344
5. Control of rectifiers	350
1. Principle of operation	350
2. Control circuits for rectifiers	353
Ch. XI. Auxiliary Equipment	357
1. Cooling Equipment	358
1. Air-cooled equipment	358
2. Water-cooled equipment	360
3. Cooling systems with water evaporation	364
2. Blocking and Signaling	365
1. Blocking circuits	366
2. Signaling circuits	369
3. Automation of transmitter operation	372
Ch. XII. Tests and Measurements of Transmitter Performance	379
1. Testing of components and sections	380

Card 13/16

Radio Transmitters	943
1. Testing of mechanical and electrical components	380
2. Tube testing	382
2. Preliminary Tests	385
1. Testing of power supply circuits	385
2. Testing the master oscillator	387
3. Testing of high-frequency amplifiers	387
4. Testing of low-frequency amplifiers	388
3. Test of the entire transmitter	389
1. Testing transmitter frequency	389
2. Measurement of transmitter output power	392
3. Measurement of carrier-wave harmonics and parasitic oscillations	395
4. Measurement of degree of amplitude modulation	397
5. Measurement of frequency-modulation index and deviation	400
6. Measurement of modulation distortions and transmitter noise	401
7. Decoding of a telegraph signal	403
8. Measurement of frequency band-width	404
9. Table of transmitter output power	405

Card 14/16

Radio Transmitters

943

Ch. XIII. Principles of Transmitter Design	407
1. Design specifications	407
1. Selection of oscillator	408
2. Selection of tubes and number of transmitter stages	409
3. Selection of modulation circuit	411
4. Selection of power-supply	412
5. Transmitter block-diagram	413
2. Transmitter circuit	413
1. Feeding of plate and grid circuits	414
2. Selection of HF amplifier circuit	417
3. Circuit of output stage	418
4. Circuits of intermediate stages	421
3. Design considerations	424
1. Stationary transmitters	425
2. Mobile transmitters	427
Ch. XIV. Types of Transmitters	430
1. Stationary transmitters	430

Card 15/16

Radio Transmitters

943

- | | |
|---|-----|
| 1. Long-wave and medium-wave transmitters | 430 |
| 2. Short-wave transmitters | 448 |
| 2. Mobile transmitters | 468 |
| 1. Ship transmitters | 468 |
| 2. Portable transmitters | 474 |

Bibliography

476

Symbols and definitions

477

AVAILABLE: Library of Congress

Card 16/16

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ZAGAJEWSKI, T.

On nonlinear feedback loop amplifiers. Archiw elektrotech
11 no.3:389-399 '62.

1. Katedra Elektroniki Przemysłowej, Politechnika, Gliwica.

ZAGAJEWSKI, T

"Optimum parameters of an R-C oscillator with a Wien bridge."

p.273 (Archiwum Elektrotechniki Vol 7, No. 2, 1958, Warsaw, Poland)

Monthly Index of East European Accessions (EEAI) LC, Vol, 8, No.1 Jan 59

22681

P/C34/60/000/012/001/004
D235/D302

9,2100 (1137, 1159, 1385)

AUTHOR: Zagajewski, Tadeusz, Professor, Doctor of EngineeringTITLE: Measurement of time constant of resistors up to
100 ohms by the resonance method

PERIODICAL: Pomiary, Automatyka, Kontrola, no. 12, 1960, 469-472

TEXT: The method is based on the J. K. Clapp circuit with a generator (Ref. 2: An induction-capacitance oscillator with unusual frequency stability. Proceed. of IRE, 1948, t. 36, s 356). With this arrangement it is possible to measure the time constant of a resistor with an accuracy of 3 - 10%. In the introduction, the author gives a review of a few standard methods for measuring parameters of resistors, pointing out the difficulties met in all methods. To the best of the author's knowledge, there is nothing in technical literature on the subject of using the resonance bridge for determining resistor parameters. In the experiment a self-inducting generator was used in order to ensure better accuracy and sensitivity. After briefly describing Clapp's circuit, the *✓*

Card 1/5

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D235/D302

Measurement of time constant...

author in

$$\omega^2 = \frac{1}{LC \left[1 + \frac{L_o}{L} \left(1 - \frac{C_o R^2}{L_o} \right) \right]} \left[1 + \frac{C_a}{C_o} + \frac{C}{C_a} \right] = \frac{1 + \frac{C}{C_o} + \frac{C}{C_a}}{LC \left(1 + \frac{\tau}{\tau_N} \right)} \quad (9)$$

gives the frequency of the generator providing the following conditions are satisfied:

$$\omega_{res} \leq 1; (\omega_{res} C_o R)^2 \ll 1; \text{ and}$$

$$\tau_N = \frac{L}{R}; \tau \approx \tau_L - \tau_C; \text{ - time.}$$

The slope of the generating valve is given by

$$S_a = \frac{R}{L_o + L} \left[C_a + \left(1 + \frac{C_a}{C} \right) C_i \right] \quad (10)$$

Card 2/5

22681
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D235/D302

Measurement of time constant...

The most satisfying frequency for the generator is in the region 400 - 600 kc/s. Frequency change was measured by bringing the frequency to a constant value by changing the capacitance in the circuit. Fig. 7 gives the working circuit of the system. R_x is the tested resistor; R_N - standard resistor of constant inductance independent of R_x . The generator oscillated with good repeatability for R_x between 0 - 100 ohms. The frequency was controlled by C generally near 600 kc/s. Frequency was stable for long enough to take measurements. Each measurement was taken twice, with:

- a) $R_N = R_x$
- b) $R_N = \infty$

$R_x = 0$; $R_N = 0$. This ensures a constant value of resistance in the circuit. Fig. 8

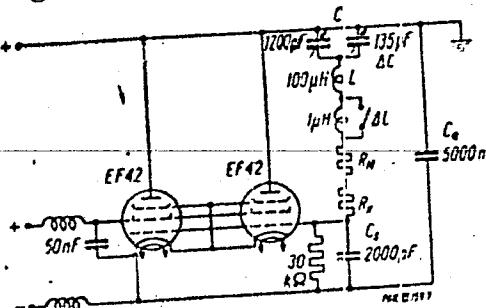


Fig. 7

Card 3/5

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D235/D302

Measurement of time constant...

gives a block diagram of the complete experiment. Standardization of the circuit was performed by connecting ΔL (Fig. 7) and noting

ΔC necessary to bring the frequency to the previous value. Accuracy of standardization was compared with the measurements using meters produced by the firm Rohde & Schwartz [Abstracter's note: No

further data given]. Their meters give an accuracy of 1%. Results obtained by both methods were within 1 - 3%. The author thinks that with better stabilization of power supply and generator, it is possible to achieve accuracy better than the estimated 3 - 10%. Generally, the results as obtained by measurements agreed with the values as given by the manufacturers. Some of the results are given in Table II. The author thanks the Head of the Zakład optyki i mechaniki precyzyjnej politechniki śląskiej (Department of Optics and Precision Mechanism, Silesian

Card 4/5

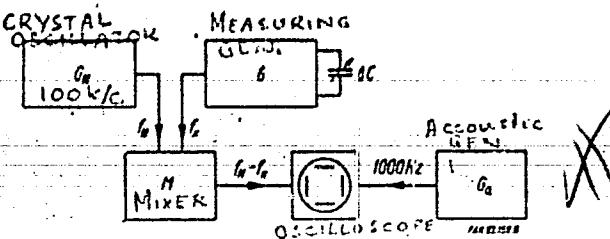


Fig. 8

Measurement of time constant...

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D235/D302

Polytechnic), Engineer E. Romer and Engineer J. Wejchonig for their cooperation in preparing the experiment. There are 6 figures, 2 tables and 7 references: 1 Soviet-bloc and 6 non-Soviet-bloc. The references to the English-language publications read as follows: J. K. Clapp: An inductance-capacitance oscillator with unusual frequency stability. Proc. of IRE. 1948, t. 36, s. 356; J. M. Diamond, H. Polushkin: Residual reactance bridge. IRE Trans. Instr. 1957, t. 1, nr. 4, s 260; G. H. Rayner, L. H. Ford: The a.c. properties of resistors and potential dividers at power and audio frequencies and their measurement. Journ. Sc. Instr. 1957, t. 34, s. 190.

ASSOCIATION: Katedra elektroniki przemysłowej politechniki Śląskiej, Gliwice (Department of Industrial Electronics, Silesian Polytechnic, Gliwice)

K. E. S. I. P. Opornik:	Tablica 11 Stale czasowe oporników w 10 ⁻³ s				
	A	B	C	D	E
Dekada 0,1 Ω	+ 183	--	+ 316	+ 293	-
1 Ω	+ 45,3	+ 48,8	+ 45,1	+ 47,6	+ 67,9
10 Ω	+ 10,5	+ 11,3	+ 8,48	+ 8,77	+ 10
100 Ω	+ 1,92	+ 1,92	+ 1,9	+ 1,97	+ 3,7

Card 5/5

Table 11

P/019/60/009/01/02/012

AUTHOR: Zagajewski, T.

TITLE: Optimum Parameters of T-Network RC Tube Oscillators

PERIODICAL: Archiwum Elektrotechniki, 1960, Vol. 9, No. 1, pp. 17 - 52

TEXT: The author analyses the nonlinear phenomena in the tube oscillators with T-networks, and determines the optimum circuit parameters necessary to obtain the smallest nonlinear distortions. Single and double T-networks are computed with the aid of the matrix calculus. Computing formulas are given for tube oscillators with a positive and negative feedback through RC circuits. The analysis proves that optimum parameters can be found for any given oscillatory system to assure the least nonlinear distortions of the oscillator. The theoretical findings were confirmed by measurements. There are 26 sets of diagrams and 16 references, 10 of which are English, 5 Polish and 1 Italian.

ASSOCIATION: Katedra Elektroniki Przemysłowej Politechnika Śląska w Gliwicach
(Chair of Industrial Electronics at the Silesian Polytechnic in
Gliwice)

SUBMITTED: September 21, 1959

Card 1/1

P/0019/64/013/001/0125/0042

ACCESSION NR: AP4039450

AUTHOR: Zagajewski, T.

TITLE: A generalized principle of the duality of electrical circuits and some of
its applications

SOURCE: Archiwum elektrotechniki, v. 13, no. 1, 1964, 25-42

TOPIC TAGS: electrical circuit, electrical circuit duality, RC circuit, selective
RC circuit, network analysis, ladder filter, linear network, inversion resistanceABSTRACT: The concept of the duality of electrical circuits is very well known as
a property of two-terminal networks or electrical networks resulting from the simi-
larity of formulas determining current and voltage in mutually corresponding
elements. This includes, for example, impedance and conductance, and capacitance
and inductance for a closed circuit and current node. In addition to the simila-
rity of the formulas, it is necessary that the numerical values of the binary
magnitudes be linked by some co. stant, called the inversion resistance R_i , which
leads to the formulas $\Sigma u = K$, $R = R_i \cdot G$, $L = R_i^2 \cdot C$ lub $C = \frac{1}{R_i^2} \cdot L$.

Card 1 1/3

ACCESSION NR: AP4039450

The dual networks defined in this way are rarely encountered in practice. The author proposes a generalized determination of a network's duality which should satisfy the following requirements: (1) the networks are topologically binary; (2) the mutually corresponding elements of both dual networks should be linked by the following relationships between the voltage in one circuit and current in the other as well as between the impedance of the kth element in one circuit and admittance of the kth element in the second $\hat{Z}_k = Z_1 \cdot \hat{Y}_k$, where Z_1 is the transform impedance and Z_1 is the inversion impedance. These formulas can be used when dealing with complex numbers. If both Z_1 and Z_1 have real values, then a known form of duality is obtained, actually a duality with an actual inversion. It can be proven that identical transients are inherent to dual networks, i.e. the current transient of one network is simultaneously the voltage transient of the other. It can be proven by analogy that neither one of these circuits is the privileged one. The above derived relationships are obligatory for both circuits. The properties can be made use of when converting tube circuits into transistorized ones. The electron tube and transistor are mutually dual in the presence of an actual diversion. If an RC network is taken as a four-terminal feedback network, another mutually dual RC four-terminal network (with dummy inversion) can be found for it without undue difficulty, and two mutually dual circuits (tube and transistor), which will have identical properties, can be assembled. Original article has: 8

Card 2/3

ACCESSION NR: AP4039450

figures, 3 tables and 24 equations.

ASSOCIATION: Katedra Elektroniki Przemysłowej Politechniki Śląskiej (Department of Industrial Electronics, Silesian Polytechnic Institute)

SUBMITTED: 26Sep63

DATE ACQ.: 18Jun64

ENCL: 00

SUB DOCS: EE, EC

NO REF Sov: 000

OTHER: 010

Card

3/3

ACC NR: AP7005543 (A) SOURCE CODE: PO/0095/66/014/009/0913/0918

AUTHOR: Zagajewski, T. --Zagayevskiy, T.

ORG: Department of Industrial Electronics, Silesian Technical University, Gliwice
(Katedra elektroniki przemyslowej, Politechnika Slaska)

TITLE: Dual and autodual electric networks with uniformly distributed parameters

SOURCE: Polska akademia nauk. Bulletin. Serie des sciences techniques, v. 14,
no. 9, 1966, 913-918

TOPIC TAGS: electric network, electric current, current transfer function,
voltage transfer function, autodual electric network, dual electric network

ABSTRACT: The principle of duality, earlier applied to planar networks with lumped
parameters, is extended to electric networks with distributed parameters, with
similar results. It is shown that the voltage transfer function and current transfer
function of such two dual networks are identical. Some electric networks with
distributed parameters have dual properties with respect to themselves. Such net-
works, called autodual, represent special cases of dual electric networks. Orig.
art. has: 5 diagrams, 1 table, and 16 formulas. [Based on author's abstract] [KP]
SUB CODE: 09/SUBM DATE: 03May66/ORIG REF: 003/OTH REF: 003/
Card 171

ZAGAJEWSKI, T.

Generalized principle of duality of electric circuits and some
of its applications. Archiw elektrotech 13 no.1:25-42 "64.

1. Department of Industrial Electronics, Silesian Technical
University, Gliwice.

ZAGAJEWSKI, T.

Generalized duality concept of electrical networks. Bul Ac
Pol tech 11 no.9:491-497 '63.

1. Department of Industrial Electronics, Silesian Technical
University, Gliwice.

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Applications of generalized duality concept of networks to
conversion of vacuum-tube RC circuits in transistor circuits.
Bul Ac Pol tech 11 no. 12: 777-780 '63.

1. Department of Industrial Electronics, Silesian Technical University, Gliwice.

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Optimization of tube generators with regard to frequency
stability and nonlinear distortions. Archiw elektrotech.
12 no.3:547-567 '63

1. Katedra Elektroniki Przemyslowej, Politechnika Slaska,
Gliwice.

ZAGAJEWSKI, T.

The frequency instability of RC oscillators caused by non-linear effects. Bul Ac Pol tech 11 no.4:195-200 '63.

1. Department of Industrial Electronics, Silesian Technical University, Gliwice.

ZAGAJEWSKI, T.

Nonlinear positive feedback amplifier. Bul Ac Pol tech 10
no. 9t559-561 '62.

1. Department of Industrial Electronics, Silesian Technical
University, Gliwice.

12084

P/019/62/011/003/001/008
D289/D308

9.3740

AUTHOR: Zagajewski, T.

TITLE: Amplifiers with non-linear feedback

PERIODICAL: Archiwum elektrotechniki, v. 11, no. 3, 1962,
389-396

TEXT: The author considers an inertialess amplifier with gain k_u whose feedback loop includes a four-terminal network with a known characteristic $u_r = f_1(u_2)$. The input and output voltages are denoted by u_1 and u_2 respectively. A formula is deduced for the total gain k'_u , which, for strong negative feedback, can be replaced by an approximate relation $u_1 = -f_1(u_2)$. If the four-terminal network is connected with the output through a resistive voltage divider replacing u_2 by au_2 , then

$$u_2 = -\frac{1}{a} f_1^{-1}(u_1) \quad (10)$$

Consequently the shape of the non-linear amplifier characteristic

Card 1/2

Amplifiers with non-linear feedback

P/019/62/011/003/001/008
D289/D308

can be varied continuously by adjusting the voltage divider. If a non-linear four-terminal network is inserted in a positive feedback circuit then the general form of the characteristic cannot be determined, but one can determine the characteristics graphically starting from

$$u_1 = \frac{u_2}{k_u} - f_1(u_2) \quad (11)$$

for which a method is given. In some cases analytical determination is possible. For $u_r = cu_2^2$ the author finds

$$u_2 = k_u(u_1 + c k_u^3 u_1^2 + 2c^2 k_u^5 u_1^3) \quad (16)$$

The terms of higher orders can be made small by limiting input voltage. There are 4 figures.

ASSOCIATION: Katedra elektroniki przemysłowej politechniki Śląskiej (Department of Industrial Electronics, Silesian Polytechnic)

SUBMITTED: April 9, 1962
Card 2/2

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963410012-4

ZAGAJEWSKI, T.

Electric symmetry of non-linear circuits with symmetrical structure.
Archiv elektrotech 10 no.3:711-721 '61.

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963410012-4"

ZAGAJEWSKI, Tadeusz, prof., dr., inz.

Resonance method for time constant measurements of resistors
greater than 200 0-mega. Pomiary 7 no.12:486-487 D '61.

1. Katedra Elektrotechniki Przemysłowej, Politechnika Śląska,
Gliwice.

(Electric resistance)

P/034/61/000/012/002/003
D265/D305

AUTHOR: Zagajewski, Tadeusz, Professor, Doctor of Engineering

TITLE: A resonance method for the time constant measurements
of resistors greater than 200Ω

PERIODICAL: Pomiary, Automatyka, Kontrola, no. 12, 1961, 486-487

TEXT: The method described in this paper is based on the dependence of the resonant frequency of the parallel circuit on the time constant of the resistor connected in parallel. The changes of frequency, however, are too small (10^{-3} - 10^{-5}) and, therefore, a generator system is used to measure accurately the frequency changes. The circuit diagram of the Meissner generator is shown in Fig. 3. Various attempts are described in order to eliminate the non-linear characteristics of the generator's valves and a simple method to overcome this effect is given in this paper. This method involves two measurements at the same amplitude: The first with a resistor of known resistance and known as a negligibly small time constant connected in parallel with the generator circuit, and the second

Card 1/3

P/034/61/000/012/002/003
D265/D305

A resonance method for ...

one with the same value of resistance, but with an unknown value of the time constant. The difference between the two frequencies or capacitance thus obtained will be proportional to the difference of two time constants, and the non-linear effects will be eliminated. The accuracy of the above method depends on the choice of the resistances used for comparison. Reference is made in this paper to the author's previous publication: (P.A.K. no. 12, 1960, 569-572). There are 4 figures.

ASSOCIATION: Katedra elektroniki przemysłowej politechniki śląskiej, Gliwice (Department of Industrial Electronics of the Silesian Polytechnic, Gliwice)

Card 2/3

A resonance method for ...

P/034/61/000/012/002/003
D265/D305

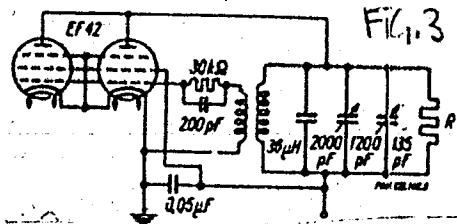


FIG. 3

Fig. 3



Meissner's generator used for time-constant measurement of resistors of resistance above 200Ω

Card 3/3

30570

P/019/61/010/003/001/008
D265/D305

9.3200 (1147, 1159)
AUTHOR: Zagajewski, T.

TITLE: Electrical symmetry of non-linear circuits of symmetrical structure

PERIODICAL: Archiwum elektrotechniki, v. 10, no. 3, 1961, 711-721

TEXT: Symmetrical circuits containing two non-linear elements of real resistance were analyzed to establish the condition of the circuits with respect to a central point or with respect to an axis. The reason for non-retaining the condition of symmetry is basically due to the negative resistance of the non-linear elements. The conditions of electrical symmetry were determined by analyzing the equality of currents and voltages in the relative branches of the circuit. The method illustrated in the article shows a way of determining the conditions of electrical symmetry of circuits with any two non-linear elements. The conditions of symmetry could be considered a criterion of stable behavior of the circuit because only under the condition of symmetry will the circuit behave nor-

Card 1/5

30570

P/019/61/010/003/001/008
D265/D305

Electrical symmetry of ...

mally. The bridge circuit symmetrical with respect to a central point has the opposite branches identical in pairs. The symmetry condition of such circuit can be expressed by

$$u(I_1) = u(I'_1 - I_1) \quad (2)$$

when $I_1 = I'_1$ (see Fig. 2). The case of an electrical symmetry will exist when the non-linear elements used in the circuit will be of the type $u = k.i^n$ when $n > 0$; when the non-linear elements have negative resistance, it is possible to have pairs of values for I_1 , I'_1 satisfying (2) but different from $I_1 = I'_1$. Drawing load lines on a voltage-current characteristic of the non-linear element having negative resistance, helps to determine the stable and electrically symmetrical working condition. Circuits symmetrical with respect to an axis have the adjacent elements equal in pairs. The

Card 2/5

39570

P/019/61/010/003/001/008
D265/D305

Electrical symmetry of ...

stable electrical symmetry condition can be expressed as:

$$u(I_1) - u(I_1') = R(I_1' - I_1 - 2I_0) \quad (4)$$

where $I_1 = I_1' = I$, i.e. $I_0 = 0$ (Fig. 4). As previously, non-linear elements with negative resistance may provide solutions when $I_1 \neq I_1'$. For stable conditions of electrical symmetry, one must have $I_1 = I_1'$. Using the above principles, the analysis of asymmetry of a valve trigger circuit is shown. There are 6 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: G. N. Patchett, The theory of non-linear bridge circuit as applied to voltage stabilisers. Journ. Inst. El. Eng. Part III, vol. 93, no. 26, pp. 16 - 22, 1946.

Card 3/5

30570
P/019/61/010/003/001/008
D265/D²05

Electrical symmetry of ...

ASSOCIATION: Katedra elektroniki przemysłowej politechniki Śląskiej (Department of Industrial Electronics of the Silesian Polytechnic)

SUBMITTED: December 16, 1960

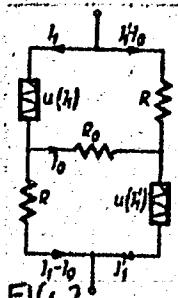


Fig. 2

Symmetrical circuit with non-linear elements in the opposite branches of the bridge

Card 4/5

Electrical symmetry of ...

30570

P/019/61/010/003/001/008
D265/D305

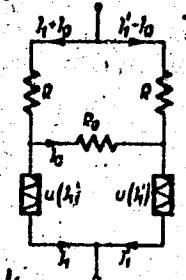


Fig. 4

Symmetrical circuit with non-linear elements in the adjacent branches of the bridge

Card 5/5

CHOBOT-MACIEJEWSKA, Halina; DEMBINSKA-WIDY, Ludomira; DZIKOWSKI, Krzysztof;
ZAGAJEWSKI, Wacław

Late diagnosis of thallium poisoning verified by hair examination
in a 13-year-old boy. Pol. tyg. 1ek. 19 no.7:264-266 10 F '64.

l. Z I Kliniki Chorob Dzieci Akademii Medycznej w Poznaniu
(kierownik: prof. dr med. T. Rafinski).

3

621.373.6

5685. THE BUILD-UP TIME OF OSCILLATIONS AND NON-LINEAR DISTORTIONS IN VALVE GENERATORS of T. Jagiełowski,
Arch. elektrotech. (Warsaw), Vol. 6, No. 3, 395-418 (1957).

In Polish, with summaries (2 1/2 pp. each) in English and Russian.

The interdependence of build-up time and non-linear distortion. In fact the constancy of the product of the two has been derived from van der Pol's equation and demonstrated experimentally for the cases of negative resistance generators and of the LC generator with feedback. Also shown is the dependence between build-up time and the valve characteristic (fastest for large non-linear coefficients).

A. Szaniecki

per

JW
1/1

Country : POLAND G
Category : Organic Chemistry. Synthetic Organic Chemistry
Abs. Jour : Ref Znur - Khim., No 5, 1959, No. 15416
Author : Janik, B.; Koowa, A.; Zagala, I.
Institut. : Polish AS
Title : Contribution to the Study of Derivatives of 3-Antipyrine. Report II. Transformations of Ethyl Ester of 3-Antipyrine-4-dithiocarboxylic Acid
Orig. Pub. : Dissert. pharmac. PAN, 1958, 10, No 2, 143-149
Abstract : The ethyl ester (I) of 1-phenyl-2,5-dimethylpyrazolone-3-dithiocarboxylic-4 acid (II) is hydrolyzed with a calculated quantity of an alcoholic solution of KOH (one hour, 100°) to a mixture of K salts of II and 1-phenyl-2,5-dimethylpyrazolone-3-thiocarboxylic-4 acid (III), from which II is separated out in the form of a complex compound with NiSO_4 . During heating of I (two hours) with an alcoholic KOH solution saturated with H_2S , pure II is

Card: 1/5

Country :	G
Category :	
Obs. Jour :	Ref Zhur - Khim., No 5, 1959,
	No. 15416
Author :	
Institut. :	
Title :	
Orig. Pub. :	
Abstract cont'd.	: obtained, m.p. 150-151° (from alcohol). From II, during heating with C ₂ H ₅ NH ₂ an anilide of III is formed, m.p. 206-207° (from alcohol), which is oxidized during boiling in water with yellow HgO to anilide of 1-phenyl-2,5-dimethyl-pyrazolone-3-carboxylic-4 acid. A large excess of hot alcohol alkali transforms I into 1-phenyl-2-methyl-4-acetyl-5-mercaptopypyrazolone-3 (IV), which is methylated with (CH ₃) ₂ SO ₄ in an alkaline medium to 1-phenyl-2-methyl-4-acetyl-
Card:	2/5
G - 56	

Country :
Category :

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15416

Author :
Institut. :
Title :

Orig Pub. :

Abstract cont'd. : 5-methyl-mercaptopyrazolone-3, m.p. 128-129° (from diluted alcohol), hydrolyzed by 10% alcoholic KOH solution and concentrated NH₃ to 5-oxy-1-phenyl-2-methyl-4-acetylpyrazolone-3, m.p. 74-75° (from petroleum ether), and 5-amino-1-phenyl-2-methyl-4-acetylpyrazolone-3 (V), m.p. 223-224° (from ligroin). Under the action of NaN₃, V is transformed into 1-phenyl-2-methyl-4,5-(4-oxypyridazino)-pyrazolone-3 (VI). During the treatment of a solution of the K

Card: 3/5

Country :
Category : G

Obs. Jour : Ref Zhar - Khim., No 5, 1959, No. 15416

Author :
Institut. :
Title :

Orig Pub. :

Abstract cont'd. : salt of III with a solution of I₂ in KI, bis-(1-phenyl-2-methyl-4-acetylpyrazolone-3-yl-4)-disulfide is formed, m.p. 167-168° (from toluene). A mixture of 50 g. of I in 0.2 liter of alcohol and 60 g. of KOH in 0.1 liter of water is heated for one hour at 100° and left standing for 12 hours at 20°; the product is separated out, decomposed with 2 n. HCl and IV is obtained, m.p. 115-116° (from water); phenylhydrazone, m.p. 195° (from alcohol).

Card: 4/5

G - 57

ZAGALA, I.

POLAND / Organic Chemistry. Synthesis.

G-2

Abs Jour: Rof Zhur-Khimiya, No 6, 1959, 8337.

Author : Janik, Boleslaw., Kocwa, Aleksander., Zagala,
Izabella.

Inst : Polish Academy of Sciences.

Title : Studies of Derivatives of 3-Antipyrine. Communi-
cation I. On 3-Antipyrine-4-Carboxylic Acid
and 4-Thiocarboxylic Acid.

Orig Pub: Dissert. pharmac. PAN, 1958, 10, No 2, 131-141.

Abstract: By heating (5 hours, 100°) of 3-antipyrine with
40% CH₂O in the presence of K₂CO₃ was prepared
1-phenyl-2,5-dimethyl-hydroxymethyl-pyrazolone-
3, MP 160-161° (from toluene), which was oxid-
ized with alkaline solution of KMnO₄ to 1-phenyl-
2,5-dimethylpyrazolone-3-carboxyl-4 acid (I),
MP 144-145° (from dilute alcohol). MP 162-164°

Card 1/3

POLAND / Organic Chemistry. Synthesis.

G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8337.

Abstract: (from absolute alcohol); methyl ester (ME), MP 196-197° (from chloroform); ethyl ester, MP 123-124° (from ligroin); amide, MP 205-206° (from toluene); ethyl amide, MP 175-176° (from dilute alcohol); anilide, MP 164° (from alcohol); morpholide, MP 145° (from water); hydrazide, MP 149-150- (from ligroin). I was also obtained by oxidation of 4-formyl-3-antipyrine, and in both cases there was isolated from the mother liquors, as byproduct, di-(1-phenyl-2,5-dimethylpyrazolono-3-yl-4)-methane, MP 254-255°. By heating of I with SOCl_2 was synthesized the not readily purified acid chloride, converted with a 5% alcoholic solution of KSH to 1-phenyl-2,5-dimethylpyrazolono-3-thiocarboxylic acid (II), MP 121-122° (from alcohol). The ME of which, MP 135° (from

Card 2/3

POLAND / Organic Chemistry. Synthesis.

G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8337.

Abstract: dilute alcohol), on heating with 2 n KOH is converted to I, while on treatment with $\text{NH}_2\text{C}_2\text{H}_5$ it forms the ethyl amide of I. Ethyl ester of II on reacting with NH_3 , $\text{NH}_2\text{C}_2\text{H}_5$, and $\text{C}_6\text{H}_5\text{NH-NH}_2$ forms the amide of II, MP 156-157° (from dilute alcohol, ethyl amide of II, MP 188° (from alcohol), and phenylhydrazide of II, MP 168° (from alcohol). -- D. Vitkovskiy.

Card 3/3

90

ZAGALAK, B.; PAWELKIEWICZ, J.

Chromatographic separation on phosphate-cellulose of light-sensitive
forms of corrinoids produced by propionic acid bacteria. Acta biochim.
pol. 9 no.4:315-320 '62.

1. Department of Biochemistry, College of Agriculture, Poznan.
(PROPIONIBACTERIUM) (VITAMIN B-12)

JANICKI, Jozef; SKUPIN, Janusz; ZAGALAK, Boleslaw

A trial of synthesis of a glutathione analogue containing selenium. Rocznik chemii 36 no.2:353-358 '62.

1. Laboratory of Food Biochemistry, Department of Agricultural Technology, School of Agriculture, Poznan.

ZACALAK, B.; PAWEKIEWICZ, J.

Synthesis and properties of some analogues of the corrin coenzymes. Acta Biochim. Pol. 11 no.1:49-59 '64.

1. Department of Biochemistry, College of Agriculture, Poznan.

ZAGALAK, B.; PAWELKIEWICZ, J.

Synthesis and properties of analogues of coenzyme B₁₂ methylated
in the adenosyl group. Acta biochim. Pol. 12 no.2:103-114 '65

1. Department of Biochemistry, College of Agriculture, Poznan.

ZAGALOV, A.

Analysis of the data on fulfilling production norms. Sots.
trud 8 no.2:85-86 F '63. (MIRA 16:2)

1. Ispolnyayushchiy obyazannosti nachal'nika Severo-Osetinskoy
normativno-isledovatel'skoy laboratorii mashinostroitel'noy
promyshlennosti.
(Ossetia, North--Machinery industry--Production standards)

ZAGALOVA, P. I., IONESUAN, A. S., PITENKO, N. F., and SHUTOV, A. I.

"Condition of the Upper Respiratory Tract in Workers of
the Electrolytic Shop of 'Elektrotsink' Plant," by Docent
N. F. Pitenko and Clinical Physicians A. I. Shutov, P. I.
Zagalova, and A. S. Ionesuan, Ear, Throat, and Nose Clinic,
Severo-Otinskiy Medical Institute, Gigiyena i Sanitariya,
Moscow, Vol 21, No 12, Dec 56, pp 48-49

The authors report the results of medical examinations of a number of workers employed at the electrolytic shop of "Elektrotsink" plant who complained of diseases of the upper respiratory passages. The examinations revealed serious affections of the passages: nosebleeds, ulcerations of the mucous membrane, perforations of the nasal diaphragm, and others, all undoubtedly caused by pungent substances which contaminated the atmosphere in the shop. The shop, it was found, had a large number of electrolytic baths filled with a neutral solution of neutral zinc sulfate. In the course of the electrolytic process, gas bubbles containing toxic substances are formed and evaporate forming a pungent fog which contaminates the atmosphere in the shop. In addition, it is thought that fluorite compounds which are present in the electrolytes in some quantities play their part in causing the affections.

On the basis of the examinations, a number of measures with a view toward improving hygienic-sanitary conditions at the shop and protecting the workers' health are recommended. Among them are (1) the exclusion from employment in the shop of persons who may be susceptible to diseases of the upper respiratory tract, (2) proper ventilation, (3) the installation of facilities for drawing off the gases directly from the baths, (4) organized periodic washing of the mouth during work hours, and the application of vaseline to nasal mucous membrane before work begins, and (5) organized systematic inspection of the air in the shop.

Sum 1258

ZAGAJSKI, Józef; KUS, Henryk

Popliteal cysts. Chir narz. ruchu 13 no.2:147-152 1958.

1. Z III Kliniki Chirurgicznej A. M. we Wrocławiu Kierownik: doc. dr
2. Jezioro. Wrocław ul. Traugutta 57/59 III Klinika Chirurgiczna A. M.
(KNEE, cysts
popliteal cysts, surg. (Pol))

AKHTEROW, Iosif Samoylovich, architektor-khudozhnik; MILETITSKAYA,
Feofaniya Romanovna, architektor; SAPOZHNIKOV, Vladimir
Vasil'yevich, inzh.; SVEZHNIKOV, Oleg Aleksandrovich, kand.
arkhitektury. Prinimeli uchastiye: KRYZHANOVSKAYA, A.S.,
arkhitektor; ZAGAL'SKAYA, O.A., khudozhnik. MAL'CHEVSKIY, V.,
red.-sostavitel'; GARKAVENKO, L., tekhn.red.; GRISHKO, T.,
tekhn.red.

[Home furniture; design and construction manual. Mebel' dlia
zhil'ia; posobie po proektirovaniyu. Kiev, Gos.izd-vo lit-ry
po stroit. i arkhit. USSR, 1960. 295 p.]

(MIRA 14:4)

1. Akademiya stroitel'stva i arkhitektury USSR. Institut
arkhitektury sooruzheniy.

(Furniture)

ZAGAL'SKAYA, Yu.G.; BELOV, N.V.

Crystalline structure of zunyite $\text{Al}_{13}(\text{OH})_{18}\text{Si}_5\text{O}_{20}\text{Cl} = [\text{Al}_{12}(\text{OH})_{18}\text{Si}_4\text{O}_{20}]_4$
[$\text{Al}(\text{Si}_4\text{O}_4)_4\text{Cl}$. Kristallografiia 8 no.4:533-537 Jl-Ag '63.

1. Institut kristallografi AN SSSR.
(Zunyite crystals)

(MIRA 16:9)

BOKIY, G.R.; ZAGAL'SKAYA, Yu.G.; POBEDIMSKAYA, Ye.A.

Crystalliochemistry of sulfides. Report No.3: Sulfur, selenium, and tellurium of the Al₂ type. Vest.Msk.un.Ser. 4: Geol. 16 no.3:18-33 My-Je '61. (MIRA 14:6)

1. Kafedra kristallografii i kristallokhimii Moskovskogo universiteta.
(Sulfur) (Selenium) (Tellurium)

ZAGAL'SKAYA, Yu.G.; BELOV, N.V.

14 Bravais lattices as generators of 230 Fedorov symmetry groups.
Zhur. strukt. khim. 5 no.6:878-887 N.D '64. (MIR 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

ZAGALSKI, Jozef; BOROW, Zdzislaw; DZIENASIEWICZ, Adam

Wilms' tumors. Pol. przegl. radiol. 28 no. 52457-467 8-9 '64

1. z Kliniki Radiologicznej Akademii Medycznej we Wrocławiu
(Kierownik: doc. dr. med. Z. Kubrakiewicz) i z Kliniki
Chirurgii Dziecięcej Akademii Medycznej we Wrocławiu.

SLOWIKOWSKI, Jan; ZAGALSKI, Jozef; BORON, Zdzislaw

Late results of pyloromyotomy in children. Pol. tyg. lek. 20
no.31:1158-1160 2 Ag '65.

1. Z Kliniki Chirurgii Dziecięcej AM w Wrocławiu (Kierownik:
doc. dr. med. Jan Slowikowski i z Kliniki Radioiologicznej AM
we Wrocławiu (Kierownik: doc. dr. med. Zbigniew Kubrakiewicz).

BORNI, Zdzislaw; ZAGAJSKI, Josef

A rare metastasis of "adult" tumor. Pol. przegl. radiol. 28
no.5:469-472 5-6 '64

1. z Kliniki Radiologicznej Akademii Medycznej we Wrocławiu
(Kierownika doc. dr. med. Z. Hubrakiewicz) i z Kliniki
Chirurgii Dziecięcej Akademii Medycznej we Wrocławiu (Kie-
rownika opieką prof. dr. med. Jarłoro).

KAS'YANOV, Sergey Fedorovich; ZAGAL'SKIY, L.N., red.; SAM'NIKOV,
A.P., red.izd-va; BEKKER, O.G., tekhn. red.

[Mechanization and automatic control in ferrous metallurgy]
Mekhanizatsiya i avtomatizatsiya v chernoi metallurgii. Mo-
skva, Metallurgizdat, 1963. 351 p. (MIRA 16:10)
(Iron and steel plants--Equipment and supplies)
(Automatic control)

ZAGAN, V., ing.; TOMA, P., ing.

Obtaining low temperatures in refrigerating plants based on absorption, a present problem in Rumania. Ind alim anim II no.3:68-73 Mr'63

1. Atelierul termo-energetic, colectiv frig - Institutul de proiectare pentru industria chimica.

RUM/2-60-3-10/36

1(4)

AUTHORS: Zagănescu, Florin, Engineer, Belea, C., Engineer,
Candidate of Technical Sciences

TITLE: Aircraft Testing During Flight

PERIODICAL: Stiință și Tehnică, Seria a II-a, 1960, Nr 3,
pp 14-15

ABSTRACT: The author gives a brief description of the principles of aircraft testing in flight. Reference is made to Soviet test pilots, the majority of whom receive a prior training in technical institutes of higher learning. Further reference is made to the Soviet scientists I.I. Shuneyko, specialist in aircraft engines and to N.V. Adamovich, specialist in the stability and maneuverability of aircraft. The Soviet "T-114" and "IL-18" aircraft are also mentioned. There is 1 table and 1 photo.

Card 1/1

ZAGANESCU, Florin, ing., candidat in stiinte tehnice

The Vostok-3 and Vostok-4 in a simultaneous flight. St si
Teh Buc 14. no. 8:24-25, 45 Ag '62.

3.200
3.2100

R/002/62/000/011/003/004
D272/D308

AUTHOR: Zăgănescu, Fl., Engineer

TITLE: 'Mars 1' - on the way to the planet Mars

PERIODICAL: Știința și Tehnica, no. 11, 1962, 14-16

TEXT: After discussing the problems encountered in the design of a Mars probe the author gives details on the construction and performance of the Soviet 'Mars 1' satellite launched on November 1, 1962. Special attention is given to the installations for radio communication and radio control both in the space probe and on earth, where special high power and high efficiency tracking stations had to be erected. There are 5 figures. VB

Card 1/1.

ZAGANESCU, Florin, ing., candidat in stiinte tehnice

The 13th International Astronautical Congress. Rev
transport 10 no.1:38-40 Ja '63.

ZAGANESCU, Florin, ing., candidat in stiinte tehnice

What we don't know about Mara. St si Teh Buc 15 no.6:45-46 Je '63.

J 18434-63 ENT(1)/FCC(w)/FS(v)-2/BDS/EEO-2/ES(v)/ES(a)/ES(j1)/ES(c)/ES(k1)/
ES(t)-2 AMD/AFFTC/ASD/AEMYC/ESD-3 Pe-4/P1-4/Po-4/Pq-4/Pb-4 TT/A/RD/DID
R/0002/63/000/007/0013/1015

ACCESS ON NR: AP3003350

(S)

96

AUTHOR: Zagălescu, Florin

TITLE: Valeriy Bykovskiy and Valentina Tereshkova in a new cosmic tandem.

SOURCE: Stiinta si tehnica, no. 7, 1963, 13-15

TOPIC TAGS: Space flight, orbital flight, astronaut, biotelemetry

ABSTRACT: A popularized review of the June 1963 dual space flight of the two Soviet cosmonauts is presented. The objective of the flight was to study the effects of the various factors of cosmic flight on the human organism during an extended orbit and to make a comparative medical-biological analysis of these effects on man and woman. The paper outlines the tasks of the two cosmonauts were to perform and describes biotelemetry for prolonged space flight. As opposed to earlier cosmic flights, the dual flight studied the functioning of the heart, respiratory system, biocurrents in the brain, eye movements, and galvanic skin reactions. The paper includes a sketch of the sensing devices and electrodes attached to the bodies of the cosmonauts.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 23 July 63

ENCL: 00

SUB CODE: AS

NO REF Sov: 000

OTHER: 000

Card 1/1

ZAGANESCU, Fl., ing., candidat in stiinte tehnice; TAUTU, T., ing. fiz.

Theory of relativity; new checkings and hypotheses. St si Teh Buc
15 no.10:22-26 0 '63.

ZAGANESCU, Florin, ing., candidat in stiinte tehnice

Some aerodynamic and flight particularities of hypersonic
gliding rockets. Rev transport 11 no. 1: 12-20 Ja '64.

ZAGANESCU, F., ing.

Gallery of the air giants. St si Teh Buc 16 no. 1: 24-25
Ja '64.

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001963410012-4

RULEA, Gh., conf. univ.; MURARESCU, I., ing.; ZAGANESCU, F., ing.,
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Cosmic radio relays. St si Teh Buc 16 no.9:10-14,18 9'64

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CIA-RDP86-00513R001963410012-4"

AUTHOR: Zagănescu, F. (Doctor, Engineer)

ORG: none

TITLE: Low-pressure turbine

SOURCE: Stiinta si tehnica, no. 5, 1966, 26

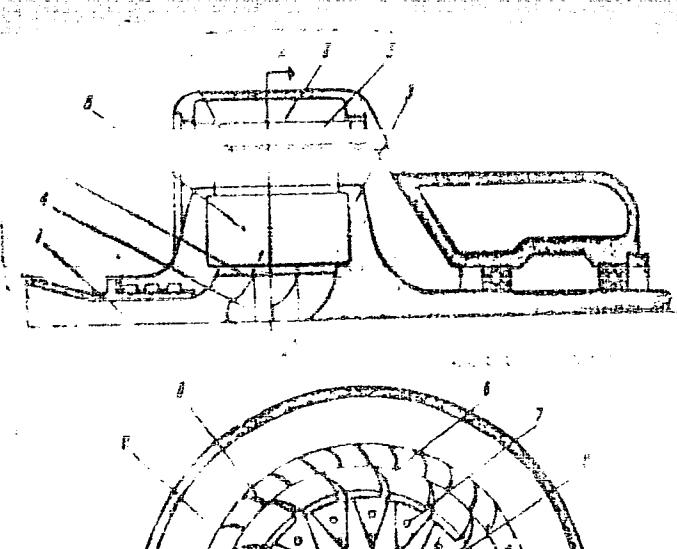
TOPIC TAGS: gas turbine, engine turbine system, turbine blade, blade profile, low pressure turbine

ABSTRACT: A recent invention of C. Teodorescu-Tintea deals with the generation of mechanical energy at the shaft of a turbine. The process is based on the principle of the so-called Teodorescu-Coanda blade system (see Fig. 1). The working fluid penetrates into the interior system (1) through the intake channel (1), passes (2) of the rotor body (3) through the guide system (4), and escapes in the form of plane jets at the backs of the curved blades (6) through the longitudinal peripheral slits in the blade ring (5). Due to the Coanda effect, the jets deviate from their initial direction and flow around the backs of the blades where very low pressure zones develop. The pressure difference creates a series of lift-like aerodynamic forces which, projected tangentially, drive the blades along the shaft leaving the rotor blades

Card 1/2

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ACC NR: AF6015409



through the fixed nozzle box (8), from there into the receiver (9), and finally, they enter the discharge channel. It is further stated that the turbine is said to have superior internal cooling and a high efficiency rating. The fact that it performs at higher temperatures than other turbines makes this turbine especially suitable for use in power installations and aircraft. In its present stage of development, the low-pressure turbine can be used for driving certain types of pneumatic machine tools and for mechanizing transfer op-

SUB CODE: 10/ SUB DATE: none

ATD PRESS 4253

Fig. 1. Schematic diagram of the low pressure turbine.

Card 2/2

L. DOH42-67 EEC(k)-2/T/EMT(v)/EMP(k)/EMP(h)/EMP(l) LJP(c) GG/BB
ACC NR: AP6032682 SOURCE CODE: RU/0002/66/000/0-09/00;0/00

AUTHOR: Zeganescu, Fl. (Doctor; Engineer)

ORG: none

TITLE: Pneumonics competes with electronics

SOURCE: Stiinta si tehnica, no. 9, 1966, 10-11

TOPIC TAGS: pneumonics, pneumatic computer, pneumatic control, pneumatic control system, automation equipment, missile guidance equipment, rocket engine component

ABSTRACT: The idea of using jets in amplification, command, and control operations is not new, although the practical application of interacting air jets was suggested only in 1954, by the German engineer V. Ferner. Extensive American and Soviet research, however, has focused attention on the importance of pneumatic elements in some applications, offers advantages not found in electronics. Pneumatic elements can be divided into interaction jet devices and devices employing jets deviated by the "Coanda effect." Pneumatic elements presently are confined mainly to binary operations. Fig. 1. shows an automatic optimizer consisting of compact pneumatic elements designed by the Institute of Automation and Telemechanics USSR. Pneumatic commands propagate at a relatively low speed in comparison with electronic commands. For many purposes, however, this lower speed is quite sufficient. The absence of an explosion risk in pneumatic commands makes them highly suitable for use in the

Card 1/3

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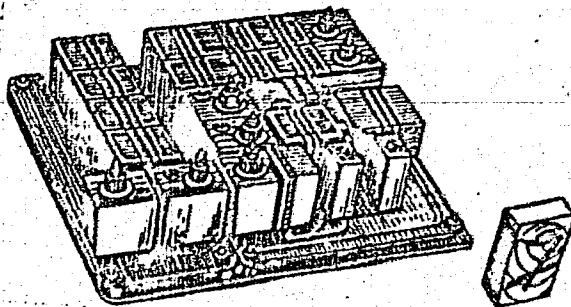


Fig. 1. Automatic optimizer

chemical and oil industries. Moreover, pneumatic elements can function at temperatures as high as 800—1000°C, temperatures which no electronic device could withstand. This advantage would be particularly important in rocket engine systems. The operation of pneumatic elements is not affected by electromagnetic or nuclear radiations. Low production cost is another advantage of such elements. Studies conducted at the Institute of Automation and Telemechanics have revealed that the cost of an adding machine using 10 decimal points designed with pneumatic memory elements, is only one-twenty-fifth that of a transistorized computer, and one-sixty-five that of a ferrite-based computer.

The design of missile guidance systems based on the application of pneumatic elements is a new field. The first model of a missile using a stage amplifier weighing 1.5 kg has a control jet of 25 g/min capable of directing a tail

Card 2/2

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ACC NR: AP6032662

current of 16.5 kgs/min which, in turn, is used to deflect a reactive jet. Current research in the field is aimed at better understanding of fundamental processes involved in the development of techniques for the large-scale production of pneumatic units, and the possibility of their application for pneumatic devices. One of the disadvantages of pneumonics are that jet elements can only be controlled by pressure, amplification elements will have to be introduced for industrial applications, amplification elements will have to be introduced for industrial applications, and the phenomena are not easily adjustable, and the various phenomena associated with the jet are not completely understood. The art. has: 1 figure.

SUB CODE: 13, 20, SUBM DATE: none/ ATD PRESS: 5095
21

3/3

RUMANIA

ZAGANESCU, Florin, Eng, Candidate in Technical Sciences (Candidat in Stiinte Tehnica) [affiliation not given]

"A New Brilliant Victory of Soviet Cosmonautics. Valery Bikowski and Valentina Tereshkova in a New Cosmic Tandem."

Bucharest, Stiinta si Tehnica, Vol 15, No 7, Jul 63, pp 13-15.

Abstract: A non-technical description of the orbital flight of Vostok-5 and Vostok-6 in June 1963. The article describes the various tasks that the cosmonauts performed in space and reports on the bio-physiological data returned to earth by biotelemetry. Includes 1 table and 3 illustrations.

1/1

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17.1156 also 3512, 2812, 3312

R/002/60/010/009/003/003
A125/A026

AUTHOR: Zăganescu, Fl., Engineer

TITLE: The Earth-Space-Earth Flight

PERIODICAL: Ştiinţă şi Tehnică, 1960, No. 9, pp. 29-30 and 41

TEXT: Subject article deals with the flight of the Soviet biosatellite performed on August 19, 1960. According to Professor Gh. Pokrovskiy the moment of the launching was selected because of the favorable conditions for a manned flight in the perisolar space. The almost circular orbit had an apogee of 339 km and a perigee of 306 km. The inclination angle against the equatorial plane was 65° and the initial orbiting time 90 min and 36 sec. The dogs' Belka and Strelka provided with pressure suits, 40 mice, two rats, insects, plants, seeds, micro-organisms, microbes, etc. were on board. A constant temperature of 20°C and a pressure of 760 mm was in the capsule. The air was regenerated by single-cell algae. Water vapors and carbon dioxide were removed and the animals were fed automatically. The suspension and position of the capsule was studied in function of flight direction and speed. The materials used provided protection against cosmic solar radiations. According to Academician Tsychev, all specialists will

Card 1/2

86170

The Earth-Space-Earth Flight

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A125/A026

be informed on the results of this flight. The behavior of the two dogs was watched by radio and TV. The physiological data appearing especially during the recovery flight were recorded. It could be established that the last part of the flight was performed without any harm to the animals. Radiocommunication was accomplished on three channels: telecontrol, telemetering and television transmission. A 19,995 Mc "Signal" radio was installed on board. Data transmitted by this radio were compared by an electronic computer with precalculated values. The results of the physiological, physical and electrical measurements were transmitted to the Earth as electric currents of variable intensity. Since these results could not be transmitted constantly, they first were recorded on a magnetic tape. The measuring instrument, the memorizing device and the periodic switching of the transmitter were controlled from the ground. The TV images were synchronized with the telemetric data. During the recovery flight, the behavior of the dogs' organism was recorded by an automatic autonomous system installed on board of the space ship. The author finally mentions several space ship recovery and braking systems, without accurately knowing the one used by the Soviets. The ship landed only 10 km away from the preestablished landing point. There are 4 figures.

Card 2/2

CURELEA, S., ing.; ZAGANESCU, Fl., ing., candidat in stiinte tehnice

Cybernetics and cosmos applications. St si Teh Bac 14 no.12
40-41 D'62.

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J. 2000
29(1)R/002/60/05/046/052
D0021/D3001

AUTHOR: Zagănescu, Fl., Engineer

TITLE: Recovery of Satellites ✓

PERIODICAL: Stiință și Tehnică, 1960, Nr 5, Supplement, p 1,
col 1-3, ctd p 2, col 1-3

ABSTRACT: Soviet science and engineering created the proto-type of a cosmic ship, the satellite-space-ship, which was to verify all necessary technical aspects, including the launching and the re-entry of man from space. The satellite-space-ship which was launched on 15 May 1960, was provided with necessary apparatuses to ensure full safety and survival during space flight. Though the 2.5-t capsule will not be recovered, it is assigned for various operations which are controlled by orders from the Earth. The accomplishment of perfect re-entry of an air-tight

Card 1/2 ✓

69727

R/002/60/05/046/052

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Recovery of Satellites

capsule³ is the problem to be solved. A tentative solution was worked out from the data collected by the "Sputniks", from the powerful Soviet rocket launched into the Pacific Ocean and from the cosmic ship last launched with a weight of 4,540 kg. The article further deals with the general theory of aerodynamics of satellites and the system of cosmic braking. There is 1 figure.

Card 2/2

ZACANESCU, Fl., ing., candidat in stiinte tehnice

On the way toward the planet Mars: "Mars 1." St si
Teh Buc 14 no.11:14-16 N'62.

CURELEA, S., ing.; ZAGANESCU, Fl., ing., candidat in stiinte tehnice.

Application of cybernetics and the cosmos. St si Teh Buc
14 no.12:40-41 D'62.